

# **BALL GRID ARRAY PACKAGE WITH HEAT SINK DEVICE**

## **ABSTRACT OF THE INVENTION**

The present invention provides a heat sink device for the package device to improve the heat dissipating efficiency. The heat sink device includes a first heat sink assembly and a second heat sink assembly. The first heat sink assembly ~~that includes~~ has a first heat dissipating structure, a second heat dissipating structure above first the heat dissipating structure, at least two thermal supports on the backsides of the first heat sink assembly and a thermal block on the backside of the first heat sink assembly. The second heat sink assembly has a protruding structure and at least openings. The first heat sink assembly is fixed with the second heat sink assembly to form a heat sink device by the combination of the thermal supports and the openings. The first heat sink assembly and the second heat sink assembly are attached to the integrated circuit device separately by the thermal block and the protruding structure. This sink device provides several heat dissipating pathes by the second heat dissipating structure, the thermal supports, the thermal block, and protruding structure. Therefore, the heat dissipating efficiency of the heat sink device is improved.